Overview of field investigation procedures

We conducted tests at five locations in fall 1999 and five locations in spring 2000. Intersections were chosen based on several criteria, including: a) presence of an Econolite or Eagle controller, b) variety of cabinet types (at least one TS-2 location was desired), c) variety of intersection designs (both cross and T-intersections were desired) and d) reasonable proximity to project team personnel. All locations were in Wake County, in Highway Division 5. In fall 1999, we collected data at an Automatic Traffic Recorder (ATR) site on Wade Avenue Extension.

We note that while intersections were not chosen completely randomly, they did cover a range of common signalized intersection designs. In addition, the characteristics used to select the intersections were not the same as those investigated in the statistical analysis, so the results of the tests should be no less applicable than those that would have arisen from a different sample from the same pool of intersections.

For each test, we reprogrammed the Econolite signal controller to collect data at 15 minute intervals. Fortunately, the Econolite ASC-2/2100 controller (Advanced System Controller 2/2100) has a menu-driven interface for doing so; this procedure will be described in a future Appendix. For the spring 2000 tests, traffic services personnel also replaced some or all of the standard detector amplifiers with two-channel detector amplifiers, rewiring the cabinet where necessary.

For all tests, personnel from the Traffic Survey Unit collected data manually. Rather than the usual turning movement count, which is performed by counting vehicles at the intersection proper, TSU personnel counted vehicles as they passed over loops. In all cases, Traffic Survey Unit personnel conducted a field visit ahead of time to identify loops. In some cases, electronic